REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-14, 16-29, 32, and 34-39 are currently pending. No claims have been amended herewith.

In the outstanding Office Action, the specification was objected to as failing to provide proper antecedent basis for the claimed "computer-readable medium"; Claims 32 and 34-39 were rejected under 35 U.S.C. §101 as being directed to nonstatutory subject matter; Claims 1-7, 10-14, 16-18, 20-29, 32, and 34-39 were rejected under 35 U.S.C. §102(e) as being anticipated by Chau et al. ("Comparison of Two Approaches to Building a Vertical Search Tool: A Case Study in the Nanotechnology Domain"); and Claims 8, 9, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Chau et al. reference in view of U.S. Patent No. 5,754,938 to Herz et al. (hereinafter "the '938 patent").

Applicants respectfully traverse the objection to the specification and respectfully submit that the specification provides antecedent basis for a computer readable medium. In particular, Applicants note that paragraphs [0045]-[0052] in the published application discuss the implementation of the present invention using a computer. See also Figure 1 which shows an information and retrieval system based around a general purpose computer 10. In particular, Figure 1 shows that the general purpose computer includes a disk storage 30 for programs and data. See paragraph [0045], which also states that "...the programs being stored on the disk storage 30 and provided, for example, by the network 50, a removable disk (not shown) or a pre-installation on the disk storage 30." Applicants respectfully submit that a disk storage unit is a well known computer-readable medium. Thus, Applicants respectfully submit that the specification provides support for a computer readable medium

storing a program, which is recited in independent Claims 32 and 34. Accordingly, Applicants believe that the objection has been overcome.

Applicants respectfully traverse the rejections of Claims 32 and 34-39 under 35 U.S.C. §101 as being directed to nonstatutory subject matter. In this regard, Applicants note that page 3 of the outstanding Office Action states that "[t]he claimed invention is addressed to a 'computer-readable medium' that can be interpreted as referring to lines of programming within a computer readable medium...." However, Applicants respectfully submit that a program consisting of lines of code is clearly different than a computer-readable medium. As discussed in M.P.E.P. §2106.01, functional descriptive material recorded on a computer readable medium is patentable subject matter because it becomes structurally and functionally interrelated to the medium.

In particular, the M.P.E.P. §2106.01 states that, while computer programs as computer listing *per se* may not be patentable, "[i]n contrast, a claimed computer readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer programs functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035." In this regard, Applicants note that Claims 32 and 34 have been purposely written in the form preferred by the USPTO, and it is unclear to Applicants why those claims have been rejected. Applicants respectfully submit that a computer-readable medium encoded or storing a computer program, which when executed by a computer causes the computer to perform a particular method, or, e.g., to generate a user interface, recites functional descriptive material, and is clearly statutory under 35 U.S.C. §101. See M.P.E.P. §2106.01. Accordingly, Applicants respectfully traverse the rejection of Claims 32 and 34-39 under 35 U.S.C. §101.

Claim 1 is directed to an information retrieval system in which a set of distinct information items map to respective nodes in a self-organizing map by mutual similarity of the information items, so that similar information items map to nodes at similar positions in the self-organizing map, wherein the self-organizing map is trained upon reduced dimension characterizations of the information items, the system comprising: (1) a user control for defining a search criterion for selecting information items using a standard keyword search technique; (2) a detector for detecting those positions within the self-organizing map corresponding to the information items selected by the standard keyword search technique; (3) a graphical user interface for displaying display points representing those positions within the self-organizing map corresponding to the selected information items; and (4) a processor, responsive to the selected information items defined by the search criterion, for providing one or more representations representative of the information content of the selected information items. Further, Claim 1 clarifies that the information items include at least image data, and that the processor is responsive to the selected information items and displays one or more images obtained from the image data included in the selected information items defined by the search criterion so as to represent the content of the selected information items.

Applicants respectfully traverse the rejection of Claim 1 as anticipated by the Chau et al. reference.

The Chau et al. reference is directed to two approaches of building a domain-specific search tool, a server site search engine and a client site search agent. In particular, the Chau et al. reference discloses the NanoSearch system and the NanoSpider system. See Figures 2 and 4 of the Chau et al. reference. Regarding the NanoSearch approach, the Chau et al. reference discloses that, as shown in Figure 3, the user can enter a search term into a user interface and retrieval results are obtained and ranked based on the popularity and relevancy of the pages. Further, the Chau et al. reference discloses that, in addition to showing the

search results as a traditional rank list, the NanoSearch system also displays a picture of a flower (the "Nanoflower") that represents the quality of the particular web page, such that the size of the flower represents the term frequency, and the number of petals represents the number of inlinks. Further, the NanoSearch system displays a larger flower to indicate the pages that are more relevant to the search string, and a flower with more petals indicates that the page is more popular. Further, as shown in Figure 2.5, the NanoSearch system displays a 2D map of the search results obtained from the search term, such that the user can select one of the subtopics in the 2D map to see a list of the search results directed to that subtopic. The NanoSpider approach shown in Figure 4 provides a similar 2D map for the user.

However, Applicants respectfully submit that the Chau et al. reference fails to disclose a detector for detecting those positions within the self-organizing map corresponding to information items selected by the standard keyword search technique, and a graphical user interface for displaying display points representing those positions within the self-organizing map corresponding to the selected information items, as recited in Claim 1. In this regard, Applicants note that Claim 1 states that the self-organizing map is trained upon a set of distinct information items so that similar information items map to nodes at similar positions in the self-organizing map. Thus, Claim 1 requires a detector for detecting positions within the self-organizing map for displaying points representing those positions within the self-organizing map corresponding to selected information items obtained from a keyword search. In contrast, the Chau et al. reference discloses a 2D map of all of the search results obtained using a keyword search, so as to illustrate subtopics of the obtained search results. However, Applicants note that the 2D map disclosed by the Chau et al. reference is prepared based only on the obtained search results, whereas Claim 1 requires detecting positions within a self-organizing map, which was trained using a set of distinct information items, i.e., not just the

search results obtained using the keyword search, to graphically represent the search results within the self-organizing map.

In a non-limiting example, Applicants note that the invention recited in Claim 1 is directed to illustrating the search results within the larger context of the trained self-organizing map. In contrast, the 2D map disclosed by the Chau et al. reference only illustrates how the obtained search results are subdivided, but does not give a user any context of how the search results relate to a larger set of information items.

Further, Applicants respectfully submit that the Chau et al. reference fails to disclose that the processor is responsive to the selected information items and displays one or more images obtained from the image data included in the selected information items defined by the search criteria so as to represent the content of the selected information items. Rather, the Chau et al. reference merely discloses displaying an image that represents the quality of a particular search result, i.e., displaying the Nanoflower that indicates the relevancy and/or the popularity of the particular search result. However, Applicants note that the displayed flower is not an **image obtained from the image data included in an information item**, as required by Claim 1. The Nanoflower is not an image that is obtained from image data of the corresponding search result, as required by Claim 1. Rather, the Nanoflower disclosed by the Chau et al. reference is merely an icon generated by the system to communicate the relative importance of the search results, and is unrelated to any images included in the selected information items obtained from the keyword search, as required by Claim 1.

Accordingly, for the reasons stated above, Applicants respectfully traverse the rejection of Claim 1 (and all similarly rejected dependent claims) as anticipated by the Chau et al. reference.

Independent Claims 21 and 34 recite limitations analogous to the limitations recited in Claim 1. In particular, Claims 21 and 34 recite the displaying of image data and the detecting

positions within a self-organizing map corresponding to selected information items. Accordingly, for the reasons stated above, Applicants respectfully traverse the rejection of Claims 21 and 34 (and all similarly rejected dependent claims) as anticipated by the Chau et al. reference.

Regarding the rejection of dependent Claims 8, 9, and 19, Applicants respectfully submit that the '938 patent fails to remedy the deficiencies of the Chau et al. reference, as discussed above. Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness has not been established and that the rejections of Claims 8, 9, and 19 should be withdrawn.

Consequently, in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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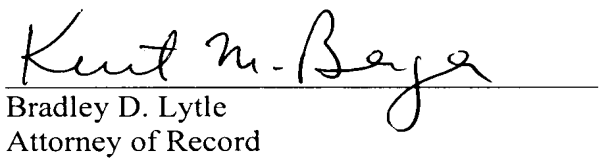

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